



PROGRESS REPORT NO. 165

TO: Robert Tan, U.S. Environmental Protection Agency (EPA) – via Electronic mail
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FROM: Kris McCaig, Teck American Incorporated (TAI)

Cc: Denise Mills, TAI – via Electronic mail
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DATE: April 7, 2020

FILE NO: 01-773180-000

RE: Upper Columbia River (UCR) Remedial Investigation/Feasibility Study
(RI/FS) - Progress Report No. 165 Month Ending March 2020

Pursuant to Paragraph 39 of the June 2, 2006 Settlement Agreement (Agreement), the following is intended to provide a summary of activities completed during the past month in compliance with the aforementioned Agreement. It is also intended to provide a brief summary of pending and on-going activities.

Soil Amendment Technology Evaluation Study (SATES):

TAI continued coordination with the SATES team and Kira Lynch, Superfund Technology Liaison with the Office of Research and Development, Office of Science and Policy (and Acting Chief, Site Cleanup Section #2, Remedial Cleanup Branch) during the month.

The Ohio State University (OSU) laboratory collected the last set of soil samples (time point 3) for the bench-scale testing of the selected soil amendments on March 11, 2020, marking the end of the 6-month test period. The bench tests were conducted in accordance with the Final Phase II Bench-Scale Treatability Testing Work Plan (May 2019) and Addendum No. 1 (July 2019). Analytical results for baseline (time point zero, collected in September 2019) and time point 1 samples (collected in October 2019) are under review by a third-party data validator. Time point 2 samples were collected on January 11, 2020 and have been analyzed; the third-party validator has yet to review these results. In coordination with EPA, TAI initiated planning for a SATES update and data review call to occur in late April or early May 2020. TAI and Ramboll held an online tutorial on March 29 and 30, 2020

to review the method selected to gather input from the SATES technical team to assist with the decision on which amendments should be advanced to the Phase III field-scale pilot testing. Preparation of the draft Phase III/Phase IV work plan is underway.

TAI received notification from OSU on March 19, 2020, that their research laboratory was shut down as part of OSU's response to the COVID-19 outbreak. OSU informed TAI that the Phase II (time point 3) samples collected on March 11 were prepared for analysis and put into storage, pending analysis when the laboratory reopens. TAI notified EPA of the shut down by phone on March 19, 2020. OSU is proceeding with its analysis of the preliminary baseline, time point 1, and time point 2 results, in preparation for the aforementioned data review and update call.

Baseline Ecological Risk Assessment:

Weight of evidence (WOE) – TAI and EPA coordinated during the month of March to schedule a WOE webinar for April 14, 2020. The webinar will likely be first of several to keep the process moving in lieu of what was originally intended to be an in-person workshop.

Upland Soil Background Assessment – TAI submitted the Revised Draft Final Technical Memorandum, Assessment of Background Concentrations of Metals and Metalloids in Upland Soils to EPA via electronic mail on March 26, 2020, along with TAI's responses to EPA comments on the draft technical memorandum (dated September 19, 2019). TAI received an initial set of comments from EPA on January 27, 2020 and amended comments from EPA on February 25, 2020.

Phase 3 Sediment Study Sediment Facies Mapping – TAI received comments from EPA on March 18, 2020 on the Draft Phase 3 Sediment Study - Sediment Facies Mapping Data Summary Report and the Draft Technical Memorandum Preliminary Sediment Composition and Facies Maps for Upper Reach Operable Unit, both submitted to EPA on December 17, 2019.

2019 Phase 3 Sediment Study:

Field Collected Sediment and Porewater Analytical Results – Beginning December 9, 2019, TAI started providing EPA with validated chemistry data and validation reports for field sediment and porewater samples collected during the 2019 Phase 3 Sediment Study, for EPA's quality assurance review. TAI received four memorandums from EPA on March 19, 2020, documenting their quality assurance review for Parts 1 through 4 of the validated data and TAI responded to EPA's review comments on March 20, 2020.

Backscatter Electron Microscopy (BSEM) – TAI provided EPA with an update on the status of the BSEM work on March 23, 2020; the BSEM samples were prepared and

evaluated as suitable for analysis, but due to the lab needing to comply with State and local requirements related to COVID-19, the start of analysis was delayed. The samples were dried and mounted in epoxy, so the samples will remain stable for analysis. TAI will continue to update EPA on when analysis will take place and subsequent reporting of results.

Toxicity Identification Evaluation (TIE) Pilot Study – Upon approval from EPA, TAI initiated additional TIE pilot study testing on March 18, 2020, as described in the final study memorandum dated February 19, 2020. Testing started with the Evaluation of Ion Exchange Resins and Static Renewal vs Flow-through Test Design experiments. On March 20, 2020, TAI began providing weekly progress reports to EPA on the additional testing.

Porewater Extraction Method Study – At the time of this writing, on April 3, 2020 TAI submitted to EPA, the Revised Draft Porewater Extraction Method Study Stage 1 Report in response to comments TAI received from EPA on November 20, 2019, and a new addendum to the Stage 1 Report titled Draft Porewater Extraction Method Study Stage 2 Tests, which incorporated response to EPA's draft comments TAI received on February 7, 2020 related to preliminary study information TAI presented on a conference call with EPA on January 28, 2020.

Quality Assurance Project Plan (QAPP) Change Request – TAI submitted a draft final Change Request No. 6 on March 20, 2020 and received comments from EPA on the draft final version on March 25, 2020.

Bioassay Sample Selection and Batching – TAI submitted a revised draft final technical memorandum with bioassay sample selection and batching recommendations to EPA on March 18, 2020 in response to comments received from EPA on February 28, 2020. EPA approved the technical memorandum and TAI submitted a final version, both on March 19, 2020.

Bioassay Laboratory Preparation and Cross-training – In-person cross-training sessions scheduled to occur in March at each of the labs for personnel from the U.S. Geological Survey Columbia Environmental Research Center and Pacific EcoRisk were cancelled as agreed upon by TAI and EPA on March 2, 2020. Instead, training was conducted via video conference on March 3, 2020. Follow up calls were held on March 6, 2020 and March 12, 2020.

Human Health Risk Assessment (HHRA) – During a call on March 20, 2020, TAI received an update from EPA on the schedule for distributing the draft final Site-wide HHRA document for review and public comment period. It is TAI's understanding that this document will be available for review in late April 2020.

Should you have any questions or require any additional information, please do not hesitate to contact me at 509-623-4501.